

## ASPECTS OF INTERNATIONAL COOPERATION IN MARINE RESEARCH FOCUSING ON DOCUMENTARY INFORMATION RESOURCES IN SOUTH AMERICA

**Guillermina Cosulich**

**Gabriela Silvoni**

INIDEP Library

Instituto Nacional de Investigación y Desarrollo Pesquero

C.C. 175

(7600) Mar del Plata

Argentina

[biblio@inidep.edu.ar](mailto:biblio@inidep.edu.ar)

**ABSTRACT:** Aspects of international cooperation received in the past years for scientific research in marine sciences in South America are considered in relation to documentary information resources. A general diagnosis of specialised information units in the field is given through information collected by a survey and cooperation possibilities for the future are discussed.

### INTRODUCTION

International cooperation is beginning to have a new significance for Latin American information professionals of marine science because of the “togetherness” brought by “new information technologies” and the impact of economical transformations and the privatising process undergone by our research institutes resulting in great budget restrictions. The time to build independent or isolated libraries is gone, and cooperation is no longer optional but strategic. Similar problems, needs, a common history and language led us to promote regional relationships and to share the opportunities offered by international organisations.

With this in mind, the objectives for this presentation are the following:

- to detail the background that moved us to begin with the Latin American Fisheries Group of Documentary Information
- to analyse the present status of Information Units (IUs) of specialised research organisations in the field as well as their availability of information resources
- to examine the cooperation amongst IUs and regional/ international organisations and to evaluate the interest of librarians to participate in a project
- to disseminate through the present report the initial achievements regarding Latin America cooperation.

## **BACKGROUND**

The following are everyday troublesome situations that were repeatedly faced at the Library and Documentation Service of the National Institute for Fisheries and Research Development (INIDEP), Mar del Plata, and that led us to open the doors to regional cooperation:

- difficulties for this Library to find and obtain fisheries and marine sciences information in Argentina
- no specialised cooperation organisms and information systems in fisheries and marine sciences at a Latin American level,
- specialised cooperation opportunities for Latin America that are starting to be detected coming from international organisations.

### **Cooperation background at a national level**

**REDIPES** (National Information Network for Fisheries Bibliographic Information). This Network, which already existed among 30 Information Units (IU) among the countries, became strengthened since an agreement was signed in July 1996 between the INIDEP and ASFA-FAO, Rome.

In order to promote REDIPES, the visibility of marine scientists through ASFA and the importance of standardised scientific publications, the INIDEP librarians participated in organising a Documentation and Publications Workshop. A talk was also presented on the ASFIS System during the IV National Marine Science Congress, at Puerto Madryn, Chubut, Argentina, September 2000 with the attendance of national and Latin American research scientists.

During May 2002 the REDIPES strengths, opportunities, weaknesses and threats were assessed as follows:

#### Strengths:

- so far, the database ASFA offers the best international visibility to our marine and fisheries scientists,
- willingness to cooperate and fluent communication from linking librarians and scientists involved in the area,
- human resources highly prepared in the field to process information.

#### Opportunities:

- great interest from international organisations such as IAMSLIC, COI, FAO, to promote cooperation within the Latin American region and with the rest of the world,
- new software www-ISIS-ASFA developed by FAO that very shortly will be operated to secure and increase the national input information.

Weaknesses:

- very few specialised IUs (most of them cover several fields, not only aquatic, such as those IUs belonging to museums, universities or institutes from the National Research Council on Science and Technology (CONICET)),
- little concept of the value of information by most directors,
- difficulties of forging cooperating links because of long distances and economic problems.

Threats:

- political and economical insecurities in institutes that mostly belong to the Public Administration such as universities, ministries and CONICET.

**Cooperation background at a regional level**

Several types of cooperative relationships at a regional level in which the INIDEP Library is participating, are summarised. The organisations are mostly from the agricultural sector, which already has a wide experience in networks and cooperation systems. Each one of these cooperative relationships allows us to improve the quality of our information service at several stages of the information management process, such as the input, the processing or the output of information.

**REDCAPA (Network of Institutions related to Training in Agricultural Politics and Economics in Latin America and the Caribbean).** An electronic regional bulletin of technical information in the agricultural, fisheries and forestry areas function as an alert service. The bulletin surveys a great amount of news very well, subdivided in various thematic fields, in Spanish and Portuguese.

**SIDALC (Agricultural Information System for the Americas)** The SIDALC Project from IICA (Inter American Cooperation Institute for Agriculture) allows Latin American libraries to access their own bibliographic catalogues through an Agricultural MegaDatabase on the Internet. In the case of INIDEP, in the year 2002, it could finally access three of its own databases through the web: Monographs, Publication Holdings and Institute Scientific Production.

**LATINO VI (Bibliographic Databanks for Latin America and the Caribbean VI)** This cooperative project funded by UNESCO and the University of Colima, Mexico, covers all the fields of knowledge and as SIDALC, allows institutes to place their own databases through an Internet Megabase.

**LATINDEX (Online Regional Information Systems for Serial Scientific Publications of Latin America, the Caribbean, Spain and Portugal), SCIELO (Scientific Electronic Online Library):** Both are bibliographic information systems for scientific and technical serial publications that establish publishing policies, standards and quality criteria. They have produced a Latin American directory and they have promoted a

project where publications with the required quality levels are accessed through a full-text database.

### **Cooperation background at an international level**

Three different types of international cooperative relationships that are truly field-specific, and in which we are currently involved, are mentioned below.

**ASFIS-FAO (Aquatic Sciences and Fisheries Information System).** This fits exactly FAO objectives as regards the diffusion of the ASFA bibliographic database in South America. This cooperative work was an initiative of Dr José Cort (FAO-FIDI), given the importance of commercial fisheries and fisheries research in the region. Major achievements of this programme have been: (i) three new countries joined the ASFA System in 2002 as national partners: Instituto del Mar del Perú (IMARPE) in Peru, Instituto Oceanográfico (OI) of the University of San Pablo in Brasil, and Instituto de Investigaciones Pesqueras (IIP) in Uruguay; (ii) the Training Course for the new www-isis-ASFA software that took place in Viña del Mar (Chile) on 17-23 March 2002; it was organised and funded by FAO and the ASFA Board, with the logistic support of IFOP (Valparaíso, Chile), and led by Spanish speaking instructors from FAO Rome. Eleven representatives of the cooperative centres from Argentina, Brazil, Chile, Cuba, Mexico, Peru and Uruguay attended the course.

**IAMSLIC (International Association of Marine Science Libraries and Information Centres).** This association is the only one specialised in aquatic sciences offering many benefits to both the professionals and their IUs, such as project funding, support for libraries of developing countries, etc. Our short six months experience as one of its members has been positive to the highest degree.

**CoML (Census of Marine Life).** This is a recently launched international research programme aimed at the study of the biodiversity of organisms and their relationship with the environment. It offers the possibility of developing regional databases, from the simplest bibliographic lists to geographically referenced documents, which in the future should be assembled into only one international system such as that proposed by OBIS. In this regard, biologists and librarians from Argentina have written a proposal to be discussed during the CoML workshop 'Biodiversity in the Oceans and around South America: the known and the unknown' to be held in Concepción (Chile) in October 2002.

### **TOWARDS REGIONAL COOPERATION AMONG LATIN AMERICAN COUNTRIES?**

Two calls for collaboration were made by e-mail in order to organise a Latin American Fisheries Group of Documentary Information, which would be in the beginning focused on fisheries sciences. One was sent out in January 2001 and the other in March 2002 involving a total of 23 institutions of fisheries research and marine sciences. Our starting objectives were:

- knowing each other,
- sharing information resources,
- increasing the visibility of our publications.

We asked that respondents fill in a form with general information of each institute, though with little success.

When the Training Course ASFA-FAO took place in Viña del Mar last March, we were finally able to put together a first meeting of the Fisheries Group with the participation of all the attendants.

In view of our initiative to organise a Regional Cooperation Network, and consistent with the goals of ASFA-FAO and IAMSLIC, I was invited to participate in this IAMSLIC Annual Conference. We decided to take this opportunity to go further in search of data regarding the specialised institutes that may eventually join this Network. Hence, to collect this information, a survey was conducted among a group of IUs of South America. The methodology used and main results are described in the next sections.

## **METHODOLOGY**

An enquiry form was distributed among 27 organisations and research institutes by e-mail. These IUs were selected as follows: first, institutes with whom the INIDEP has an active publication exchange; second, institutes that had participated of the Training Course ASFA-FAO in Chile; third, national fisheries institutes; and finally, government and non-government research institutes devoted mainly to fisheries and marine sciences. It was decided to include the institutes of Mexico and Cuba which had already been contacted through the Fisheries Group. The IUs from General Science Departments were not included due to priority given to the fisheries field in this first stage.

The survey was aimed at:

1. Identifying institutes with specialised IUs
2. Identifying subject priorities of IUs
3. Recognising the scientific production of institutes and their visibility
4. Recognising human, administrative, bibliographic and technological resources
5. Recognising historical and current background of regional and international cooperation of institutes and IUs
6. Recognising willingness to participate in a cooperation network

## **COLLECTED INFORMATION ANALYSIS**

Answers from 19 IUs were obtained representing 70% of the total surveyed institutes. Because of incomplete data, the only IU not included was Instituto de Pesca of San Pablo (Brazil).

Even though the profiles were not completely the ones required, the following institutes were also included in the analysis: SERNAPESCA (Chile), which once had a library and

now only offers a question-answer service; the INOCAR (Ecuador) which has no librarian, and the General Sciences Department from Universidad de la República (Uruguay), the only non-specialised university library. The IUs answering the enquiry are listed in the following Table 1.

COUNTRY	INSTITUTES
<b>ARGENTINA</b>	INIDEP - Instituto Nacional de Investigación y Desarrollo Pesquero – Mar del Plata
<b>BRASIL</b>	FURG – Fundação Federal Universidade do Rio Grande
<b>CHILE</b>	IFOP – Instituto de Fomento Pesquero – Valparaíso
<b>CHILE</b>	SERNAPESCA – Servicio Nacional de Pesca – Valparaíso
<b>CHILE</b>	SHOA – Servicio Hidrográfico de la Armada – Valparaíso
<b>CHILE</b>	Facultad de Ciencias del Mar – Universidad de Valparaíso
<b>CHILE</b>	Fundacion Chile – Santiago de Chile
<b>COLOMBIA</b>	INVEMAR – Instituto de Investigaciones Marinas y Costeras – Santa Marta
<b>CUBA</b>	CIP – Centro de Investigaciones Pesqueras – La Habana
<b>ECUADOR</b>	INOCAR – Instituto Oceanográfico de la Armada de Ecuador – Guayaquil
<b>ECUADOR</b>	INP – Instituto Nacional de Pesca – Guayaquil
<b>MEXICO</b>	ICMyL - Instituto de Ciencias del Mar y Limnología – Unidad Académica Mazatlán – Universidad Nacional Autónoma de Mexico
<b>MEXICO</b>	CICIMAR – Centro Interdisciplinario de Ciencias Marinas - Instituto Politécnico – La Paz
<b>PERU</b>	IMARPE – Instituto del Mar del Perú – Callao
<b>URUGUAY</b>	IIP – Instituto de Investigaciones Pesqueras – Universidad de la República – Montevideo
<b>URUGUAY</b>	DINARA – Dirección Nacional de Recursos Acuáticos - Montevideo
<b>URUGUAY</b>	Facultad de Ciencias – Universidad de la República – Montevideo
<b>VENEZUELA</b>	INIA – Instituto Nacional de Investigaciones Agrícolas – Centro de los Estados de Sucre y Nueva Esparta - Cumaná

Table 1. Countries and research institutes answering the enquiry

Total countries surveyed were 10: 8 from South America, one from Central America (Cuba) and one from North America (Mexico). From South America, Paraguay and Bolivia, two countries with no coastlines did not participate, and neither the Guyanas or Suriname.

### **Subject fields covered by the collections**

From a list of nine subject fields requested to be placed in priority order, the following subjects were indicated as 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> priority by the IUs: -61% of the IUs covers the Fisheries Biology field, -50% covers Resources Evaluation, -33% covers Fisheries Technology, and another -33% covers Oceanography. Then, 22% of the IUs indicated as 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> priority -Fisheries Management, 17% -Aquaculture and also Statistics and 5% -Socioeconomic aspects and Fishery Legislation (Fig.1)

### **Historical data**

Year of foundation of institutes: 72% of the institutes were created during the 60's and 70's. The older ones (1874 and 1932) are those institutes belonging to the Navy and dedicated to oceanographic research. (Table2)

International cooperation agreements received: 8 governmental fisheries research institutes received cooperation from FAO when they started, and their IUs mostly received support for publishing their scientific serials. Cooperation agreements between FAO and IUs began with ASFA in 1995.

### **Human resources**

Staff quantity by IU: 12 institutes representing 67% of the sample universe, have between 1 to 3 persons; the remaining 5 institutes representing 28%, have between 4 to 11 persons. Only one, INOCAR (Ecuador) has no librarian and the enquiry was answered by a scientist.

Staff quantity and type of institutes: 5 institutes with larger staffs belong to the governmental education areas (universities and higher education) with the exception of Centro de Investigaciones Pesqueras (Cuba). Four (4) national fisheries institutes and SERNAPESCA (Chile) belonging to the economic and productive area, have only 1 to 3 persons. IFOP (Chile) and INVEMAR (Colombia), both belonging to the mixed type organisations, have between 2 and 3 persons. (Fig.2)

### **Bibliographic resources**

Amount of paper journals obtained by purchase: from 18 IUs surveyed only 12 filled in this request from which, the majority (83%) buys between 10 and 48 titles, only two buy more than that (Fundación Chile: 60 and the Department of Sciences of the Universidad de la República: 122).

Access to electronic journals: only the 39% of the IUs have access to e-journals. Among them, one belongs to a mixed type organisation, and of the rest, half belong to the educational area and the rest to the economy and production area.

Number of titles obtained by exchange: the number of titles obtained by exchange is between 20 and 1,831, but 53% of the institutes have between 110 and 775 titles (an average of 445 titles). The number of 4,990 titles given by INOCAR is considered doubtful.

Number of monographs (theses and books): from all 15 institutes answering the enquiry the amount of monographs ranged between 1,550 and 18,700. The majority (86%) has between 1,500 and 8,000 books, with an average of 4,170 monographs. The rest (14%) have between 11,000 and 18,700 (corresponding to SHOA (Chile) and the Science Department of the Universidad de la República (Uruguay), respectively). INIDEP, Argentina, has 4,190 monographs, ranking close to the average number of books of the majority of the surveyed institutes.

### **Technological resources**

Number of computers: Half the institutes have 1 to 3 PC's, 33% have 4 to 7 and the remaining 17% have from 10 to 25. The INIA Information Service, Venezuela has 25 PC's.

Ariel Programme: only 39% of 18 institutes have Ariel. Out of 7 institutes with Ariel, 3 are from Chile and 4 belong to Universities.

Internet access: only one institute has restricted access 20 hours/week.

### **Institutional scientific production**

Own publications: at the moment, only one does not have institute publications (CICIMAR, Mexico)

Own publications and ASFA: from 17 institutes with their own publications, 12 are ASFA indexed.

Own publications and institute web sites with online catalogues: all the institutes have their own web sites (50% with UIs web page), 67% with access to their own institute scientific production (3 through online catalogues and the others through a bibliographic list). (Table 3)

### **Cooperation networks/ Information Systems/ Professional Associations**

Participation in International Information Systems: Out of 18 institutes, 12 are ASFA participants, 5 of 12 are national focal points. INIA (Venezuela) and INIDEP (Argentina) are the only two AGRIS participants.



Participation in Regional Cooperation Networks/ Systems: only 18% participate (INIDEP in LATINO VI and SIDALC; Fundación Chile in SIDALC, and the Sciences Department of the Universidad de la República in LATINO VI)

Participation in National Professional Associations: only 3 out of 18 are members of associations and 6 participate through electronic Listservers.

Participation in International Professional Associations: only 4 are associated with IAMSLIC, 2 from Mexico, 2 from Chile and 1 from Argentina, all as institute members. Only 2 participate through the IFLA Listserver.

## **DISCUSSION AND CONCLUSIONS**

There were many difficulties to identify and to receive answers from specialised institutions from countries such as Brazil, Venezuela, Mexico and the Caribbean. All efforts were made to contact at least one fisheries institute from each country but, unluckily, some relevant and well known ones such as the Instituto Nacional Pesquero y Acuicola (INPA) of Colombia, the Instituto Oceanográfico of San Pablo, Brazil and the Instituto Oceanográfico of the Universidad de Oriente, Venezuela, are missing, nevertheless, they will be contacted shortly. Chile was the best represented country with 5 institutes, 4 of them from the marine and fisheries sector, and Uruguay with 3 institutions. Anyhow we consider we had a very good response with 70% from the total 27 enquires sent.

The majority of this group are small specialised libraries with similar amount of bibliographic resources, an average of 445 exchange periodical titles and 4,170 monographs, and with human resources no larger than 3. The surveyed IUs represent a very homogeneous group in the subject area and in the type of organisations they belong to. The collections primarily cover marine biology in their fisheries aspects, indicating a compatibility which will allow the exchange of information. But, the access via the institutional websites to their own catalogues is poor. It is therefore urgent to find a solution through Latin American networks that already exist even though they might not be of our specific field such as SIDALC and LATINO VI. The conditions required to be included in other networks such as the IAMSLIC Z39.50 Distributed Library are to be an IAMSLIC member and to have the means to deliver copies. To participate with institute catalogues also means to have economic and technological resources. That is why equipment and software needs to be upgraded. The obvious advantages resulting from cooperation between IUs with subject uniformity could have also operative disadvantages resulting from having similar scarcities or irregular funding.

A great participation in the ASFIS System is shown by the UIs surveyed in order to allow visibility of the regional scientific production, but due to the short experience of the new country members, the visibility is still low. With regards to the institutes surveyed that are not yet participating in the System, two of them could participate through their national focal points (SERNAPESCA, Chile and DINARA, Uruguay), and Ecuador could

be included as a new country member or otherwise could participate sending their publications to be input through the Mexico focal point. Only one of these institutes would not fit into the ASFA subject fields profile: the Science Department of the Universidad de la República (Uruguay).

On the other hand, a higher standardisation and improved publishing quality of the scientific production will allow major indexing in other international databases. LATINDEX promotes this improvement for Latin American publications but only one IU was shown to be participating in this System.

Though professional associations are very important forums for discussion and for keeping updated, librarians' participation in national and international associations are low. No doubt that participating in IAMSLIC Listserver is time consuming and hard to accomplish if you have few staff members but benefits are very high at the professional level as well as in growing opportunities for our library services.

The historical analysis of international cooperation received for research on marine sciences in the region and its impact in the documentation area should be considered in a different report due to the fact that not enough data is available.

The regional summons should not be limited to topics related to fisheries. The starting points coming from the INIDEP Fisheries Group should be broadened to all UI related to aquatic environments. All the institutes surveyed considered the participation in this cooperative network of utmost importance. Therefore, this newly opened debate on Latin American cooperation in aquatic sciences information, should have further discussions in order to be formally accomplished.

## **GENERAL REMARKS**

At a national and regional level it is recommended:

- To create an e-group of Latin American librarians specialised in the field to improve communication and exchange
- To associate with IAMSLIC
- To make use of the existing cooperation tools in order to visualise and exchange our catalogues, our institutional publications and our news at a national and international level.
- To introduce the discussion about information management among scientists, technicians and publishers through workshops, seminars and conventions
- To promote meetings for specialised librarians in marine sciences, and training courses on the new software [www-ISIS-ASFA](http://www-ISIS-ASFA)
- To develop regional databases with references of priority interests for scientists
- To encourage IUs strategic alliances with varied organisms, whether they be financial, technical or related to research.

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SIDALC (Agricultural Information System for the Americas) [Online] Available:  
<http://orton.catie.ac.cr> [20 August, 2002].

OBIS (Ocean Biogeographical Information System) [Online] Available:  
<http://www.iobis.org> [20 August, 2002].

Fig. 1. Subject fields covered by Information Units collections, each subject placed as 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> priority.

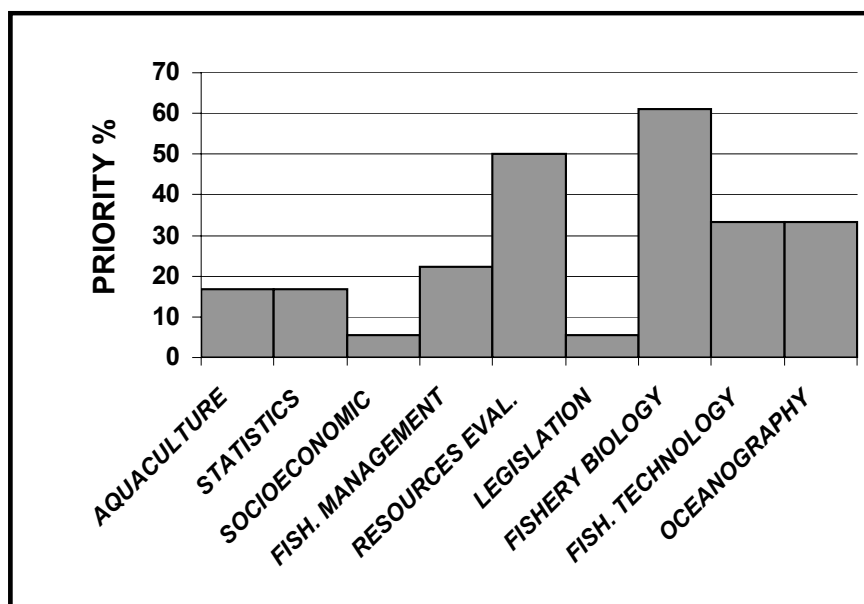


Fig.2. Types of Institutes

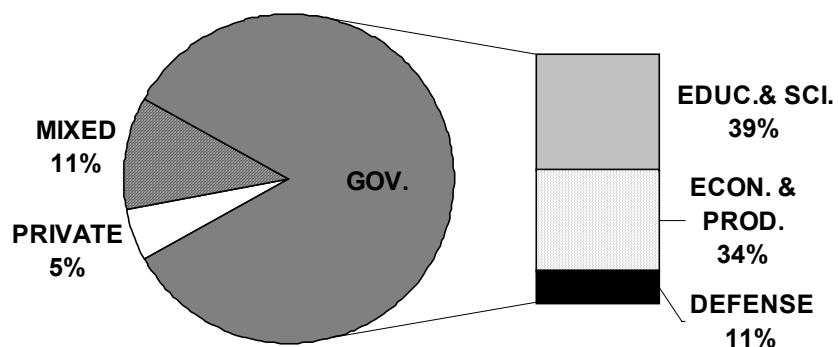


Table 2. Year of foundation of Institutes

YEAR	COUNTRY	INSTITUTE
1874	CHILE	SHOA
1932	ECUA	INOCAR
1941	CHILE	Fac.Cs.Mar Univ.Valp.
1960	CUBA	CIP
1960	ECUA	INP
1961	URUG	IIP Univ.República
1961	VENEZ	INIA
1963	COLOM	INVEMAR
1964	CHILE	IFOP, Valpar.
1964	PERU	IMARPE
1969	BRASIL	FURG
1975	URUG	DINARA
1976	CHILE	Fundacion Chile
1976	MEJICO	ICMyL UNAM
1976	MEJICO	CICIMAR
1977	ARGEN	INIDEP
1978	CHILE	SERNAPESCA
1991	URUG	Fac.Cs.Univ.Repúb

Table 3. Web Sites of Institutes

COUNTRY	INSTITUTE	WEB SITES
ARGEN	INIDEP	<a href="http://www.inidep.edu.ar">www.inidep.edu.ar</a>
BRASIL	FURG	<a href="http://www.furg.br">www.furg.br</a>
CHILE	IFOP, Valpar.	<a href="http://www.ifop.cl">www.ifop.cl</a>
CHILE	SERNAPESCA	<a href="http://www.sernapesca.cl">www.sernapesca.cl</a>
CHILE	SHOA	<a href="http://www.shoa.cl">www.shoa.cl</a>
CHILE	Fac.Cs.Univ.Valpar	<a href="http://www.uv.cl">www.uv.cl</a>
CHILE	Fundacion Chile	<a href="http://www.fundacionchile.cl">www.fundacionchile.cl</a>
COLOM	INVEMAR	<a href="http://www.invemar.org.co">www.invemar.org.co</a>
CUBA	CIP	<a href="http://www.cubamar.cu/cip">www.cubamar.cu/cip</a>
ECUA	INOCAR	<a href="http://www.inocar.mil.ec">www.inocar.mil.ec</a>
ECUA	INP	<a href="http://www.inp.gov.ec">www.inp.gov.ec</a>
MEJICO	ICMyL UNAM	<a href="http://ola.icmyl.unam.mx">http://ola.icmyl.unam.mx</a>
MEJICO	CICIMAR	<a href="http://www.cicimar.ipn.mx">www.cicimar.ipn.mx</a>
PERU	IMARPE	<a href="http://www.imarpe.gob.pe">www.imarpe.gob.pe</a>
URUG	IIP Univ.República	<a href="http://www.pes.fvet.edu.uy">www.pes.fvet.edu.uy</a>
URUG	DINARA	<a href="http://www.dinara.gub.uy">www.dinara.gub.uy</a>
URUG	Fac.Cs.Univ.Repúb	<a href="http://www.fcien.edu.uy">www.fcien.edu.uy</a>
VENEZ	INIA	<a href="http://www.inia.gov.ve">www.inia.gov.ve</a>